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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,098	07/10/2001	Tomofumi Kitazawa	210829US2	7442

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

TRAN, NHAN T.

ART UNIT	PAPER NUMBER
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2615

18

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,098

Applicant(s)

KITAZAWA ET AL.

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6-8,10,45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-8,10,45 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 6-8, 10, 45 & 46 have been considered but are moot in view of the new ground of rejection.

Claim Objections

2. Claim 1 is objected to because of the reason set forth: claim 1 recites a limitation "the shake detection information" in line 7 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-8, 10, 45 & 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakabayashi et al (US 5,918,077) in view of Hirano et al (US 5,930,530).

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Regarding claim 1, Wakabayashi discloses an imaging apparatus comprising:

- an imaging optical system (Fig. 1);
- an image pickup unit (e.g., a film) which receives an object image passing through the imaging optical system and converts it to image information (col. 2, lines 20-56);
- a shake detection unit (vibration detecting device 3, 4) which detects a shake of imaging apparatus;
- a prediction arithmetic unit (CPU 1) which calculates predictive shake information based on the shake detection information (col. 5, lines 56-67 and col. 6, lines 33-67), and determines a position as a start position (center of vibration at step S509, Fig. 3C and col. 9, lines 26-32) of correcting operation of the shake correction unit and at which predictive shake is canceled out; a shake correction unit (correction lens 13) which corrects image blurring on the image pickup unit based on the shake detection information detected by the shake detection unit; a control unit (motor drive circuits 5, 6 in combination with CPU 1) which controls driving of shake correction unit at the correcting operation start position and corrects the image blurring (see Fig. 1; col. 6, lines 44-67).

Although Wakabayashi teaches the vibration correction function of the camera as disclosed, Wakabayashi does not specifically teach that a predictive shake vector is calculated based on the predictive shake information.

Hirano teaches **an improved** vibration correction function of a camera by calculating a predictive vibration vector based on predictive vibration information by a weighted means so that a phase lag due to delay time from generation of actual vibrations until execution of vibration reduction control can be compensated for with high precision in a broad vibration

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frequency region, thus attaining high-precision vibration reduction (see Figs. 1, 4 & 5; col. 2, lines 20-52 and col. 6, line 11 – col. 7, line 67).

Therefore, it would have been obvious to one of ordinary skill in the art to improve the camera with vibration correction function in Wakabayashi by incorporating the teaching of Wakabayashi so as to obtain high-precision vibration reduction using predictive vibration vectors.

Regarding claim 10, see the analysis of claim 1.

Regarding claims 45 & 46, it is further taught that focal length information of the optical device is also taken into consideration for vibration reduction control (see Hirano, col. 5, lines 20-25 and col. 4, lines 11-17).

Regarding claim 8, Wakabayashi also discloses a correction range storage unit (i.e., EEPROM 23) which previously stores a range in which the driving of the shake correction can be controlled; detection unit which detects whether a shake quantity of the shake detection information beyond the range previously stored in the correction range storage unit; and a warning unit (vibration indicator 22) which issues a warning when the detection unit detects the shake quantity that is beyond the correctable range (see col. 8, lines 23-37 and col. 7, lines 16-20).

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Regarding claim 6, see the analysis of claim 8. Also note the lens position detecting circuits 15 & 16 that are used as a feedback to control positions of the correction lens 13 (see Wakabayashi, Fig. 1 and col. 7, lines 1-11).

Regarding claim 7, the combination of Wakabayashi and Hirano would also teach that the control unit comprises a correlation storage unit (i.e., inherent buffer due to a feedback control of the positions of the correction lens; see Wakabayashi, col. 7, lines 1-11) which previously stores correlation between the predictive shake information (previously predicted vectors; see Hirano, col. 7, lines 21-35) and the correcting-operation start positions (see Wakabayashi, col. 9, lines 26-32 for start positions originally varying from initial reset position to the center position); and a correcting-operation start position determination unit which determines the correcting-operation start position (i.e., the center position) through retrieval of the correlation stored in the correlation storage unit based on the predictive shake information.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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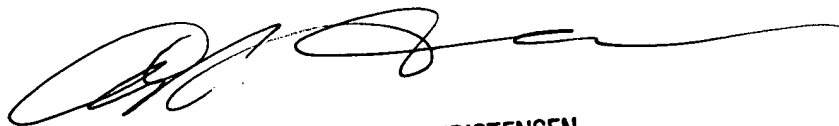
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.



ANDREW CHRISTENSEN
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